Amendments to the Specification:

Please replace the chart at page 71, lines 15-24 with the following chart:

Common Terms:
Likelihood of Toxicity: A value between 0 and 1 indicating how confident we are that a given compound/dose combination is toxic.
Model: A statistical algorithm for prediction. This section focuses on Logistic Regression, Discriminant Analysis, and classification trees which are explained elsewhere ~~(Appendix H)~~.
Model Type: Logistic Regression, Discriminant Analysis, or classification trees
Mode: A specific type of hepatotoxicity (e.g. hypertrophy)
Present and Absent: Present means a compound produced a given toxicity *in vivo* absent means it did not.

Please replace the paragraph at page 73, line 17 through page 74, line 2 with the following paragraph:

-- *Classification Trees*. As mentioned above, classification trees return a probability of correct classification for each prediction. However, this probability is actually a proportion based on the node impurity of the classification tree (the fraction of training samples on that leaf that belong to the majority class, e.g. a leaf contains 9 samples with hypertrophy and 1 sample without, the probability returned is 0.9). This is not a good indication of the true probability of an unknown because the leaf may have very few members and because the confidences of branch decisions are not included in this calculation. In order to convert this proportion to likelihood, we simply construct many trees using a subset (n-1, where n= the number of compounds) of the compounds in the reference database until all compounds are NOT used once (this is identical to the leave one out cross validation described ~~in Appendix H and~~ in the next section). This process is called a jack-knife estimate of confidence.--